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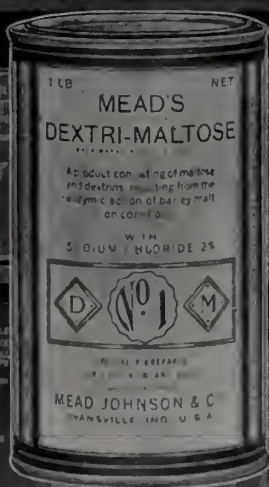
June, 1949



# BACKGROUND

The use of cow's milk, water and carbohydrate mixtures represents the one system of

infant feeding that consistently, for over three decades, has received universal pediatric



recognition. No carbohydrate employed in this system of infant feeding enjoys so rich and enduring a background of authoritative clinical experience as Dextri-Maltose.





GEORGE PACKER BERRY





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## Medical School Notes

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### NEW DEAN

On 10 May 1949 President James B. Conant announced to the Faculty the appointment of Dr. George Packer Berry to be Dean of the Harvard Medical School, effective July 1, 1949.

Dr. Berry, who has done distinguished research in immunology and virology, is now Professor of Bacteriology and Associate Dean of the School of Medicine and Dentistry at the University of Rochester.

At Harvard, he will succeed Dr. C. Sidney Burwell, who has resigned as Dean to devote his full time to teaching and research. Dr. Berry will assume his new duties in the fall. In addition to the deanship, he will hold an appointment as Professor of Bacteriology.

Dr. Berry has conducted extensive research in birds, animals and man related to such diseases as psittacosis, yellow fever, and encephalitis. He has studied the relationship of certain viruses to cancer and has been especially interested in the mechanisms of virus infections.

He is Associate Editor of the *Journal of Immunology* and of *Bacteriological Reviews*, and a member of the Editorial Board of the *Journal of Bacteriology*.

A graduate of Princeton and of the Johns Hopkins Medical School, Dr. Berry has served during his medical career in the Johns Hopkins Hospital in Baltimore and in the Hospital of The Rockefeller Institute for Medical Research in New York, as well as The Rockefeller Institute itself. He has held administrative posts in the University of Rochester School of Medicine and Dentistry since 1942.

Now 50, Dr. Berry was born in Troy, New York, son of the Rev. George Titus Berry. He was married in 1924 to Eliza-

beth L'Estrange Duncan who died in 1926. Their daughter Caroline Elizabeth Berry was married on January 22, 1949, to Cloyd Laporte, Jr., of New York City, a graduate of Harvard College and the Harvard Law School.

Dr. Berry was graduated from The Hill School, Pottstown, Pennsylvania, in 1917, and, with highest honors, from Princeton in 1921. He received his M.D. from the Johns Hopkins University Medical School in 1925.

After resident service in the Connecticut State Hospital for the Insane, at Middletown, in Bellevue Hospital in New York and in the Johns Hopkins Hospital, he became an Assistant and later Instructor in Medicine in the Johns Hopkins University.

From 1929 to 1932 he was Assistant Resident Physician in the Hospital of The Rockefeller Institute for Medical Research in New York, and an Associate of The Rockefeller Institute.

He joined the Rochester staff in 1932 as Professor and Head of the Department of Bacteriology and Associate Professor of Medicine. He was appointed Assistant Dean of the School of Medicine and Dentistry there in 1942, and in 1947 became Associate Dean.

As an officer of the Naval Reserve on active duty, Dr. Berry participated in the atomic bomb tests at Bikini atoll in 1946; earlier in the war he served on a number of committees concerned with medical training for the Armed Forces, the procurement of physicians for military service, civilian defense, etc.

Dr. Berry has been active throughout his career in professional and civic associations. He is a former President of the American Association of Immunologists

and has served as Vice President of the Association of American Medical Colleges.

He is a Diplomate of the American Board of Internal Medicine and a Fellow of the American Association for the Advancement of Science, the American Public Health Association and the American Medical Association.

He serves now as a consultant at the Rochester General Hospital and as chairman of the Princeton University's Advisory Council for the Department of Biology. He is a Director of the Josiah Macy, Jr. Foundation and a member of the Division of Medical Sciences, National Research Council.

His scholarly societies include Phi Beta Kappa, Alpha Omega Alpha, and Sigma Xi.

### UNIVERSITY PROFESSOR

President James B. Conant announced on 11 May 1949 the appointment of Dr. Edwin J. Cohn as a University Professor of Harvard University. Dr. Cohn thus becomes one of four scholars especially chosen for work on the frontiers of knowledge.

Now Professor of Biological Chemistry in the Harvard Medical School and Chairman of The Division of Medical Sciences in The Faculty of Arts and Sciences, Dr. Cohn is widely known for his development of new methods for separating the component parts of the blood.

Among scientists in his special field, he is recognized for his widening research and discoveries that have advanced man's knowledge of nature, and especially for his investigations of the amino acids, peptides and other molecules which make up proteins.

Dr. Cohn is the first scientist to hold a University Professorship. In this position, he will be free of obligation to any individual school or department within the University.

He will continue the research in physical biochemistry to which he has devoted his professional career. The research

group in the Department of Physical Chemistry at the Medical School, with which he is associated, will remain intact. Dr. Cohn, however, will be free to collaborate with any department of the University.

Dr. Cohn's appointment follows the retirement last year of Dean Roscoe Pound, who was the first scholar to hold a University Professorship. The other University Professors are: Werner W. Jaeger, the classicist; Sumner H. Slichter, the economist, and I. A. Richards, the humanist.

Dr. Cohn has been concerned throughout his career with fundamental research in the physical chemistry of the proteins, of the blood and of other tissues. Repeatedly he has turned the knowledge thus gained to immediate practical use.

At the beginning of his career, during World War I, he worked on chemical studies for substituting other proteins for those of wheat in bread-making.

When Dr. George R. Minot discovered that taking liver was helpful to people suffering from pernicious anemia, Dr. Cohn worked out liver fractions which made possible the preparation of liver extract for medical use.

His long study of proteins and their components made possible his fractionation of blood plasma during World War II. This provided: serum albumin for the treatment of shock, Y-globulins for use in preventing measles, thrombin and fibrinogen for use in surgery, isohemagglutinins for blood typing, and other protein components whose useful functions are still the subject of biochemical research.

All of Dr. Cohn's investigations into the components of blood and other tissues have been carried on in the Department of Physical Chemistry at the Harvard Medical School, and since 1928 they have been supported by grants from the Rockefeller Foundation. Dr. Cohn has served in the Department of Physical Chemistry at the Medical School since 1920, and has been Professor of Biological Chemistry and Head of the Department since 1935.

He has also served since 1936 as Chairman of The Division of Medical Sciences in The Faculty of Arts and Sciences.

His research has brought him many honors, including the Medal for Merit of the United States (1948), the Theodore William Richards Medal of the American Chemical Society (1948), the Medal of Science of the Free University of Brussels (1947), the John Phillips Medal of the American College of Physicians (1946), the John Scott Medal (1946), the Passano Award for distinguished service to American clinical medicine (1945), and the Alvarenga Prize of the College of Physicians of Philadelphia (1942).

He holds honorary degrees from Harvard, Amherst, Columbia, Geneva and Berne. He is a member of the National Academy of Sciences, the American Philosophical Society, and a Fellow of the American Association for the Advancement of Science, the American Academy of Arts and Sciences and the New York Academy of Science.

Dr. Cohn was born in New York on December 17, 1892, and attended Andover Academy, Amherst College and the University of Chicago, from which he graduated in 1914. He did graduate work at Chicago, Harvard and Yale, and received his Ph.D. degree from Chicago in 1917.

After service during World War I as a First Lieutenant in the Sanitary Corps, United States Army, he went abroad as a National Research Council Fellow in Chemistry, studying at the Carlsberg Laboratory, Denmark, and Cambridge Uni-

versity, England.

During World War II, he was responsible investigator on certain blood derivatives for the Committee on Medical Research of the Office of Scientific Research and Development, and a member of the Sub-Committee on Blood Substitutes of the National Research Council.

He serves at present on the Panel on Hematology of the United States Public Health Service, and on the Committees on Blood and Blood Derivatives of the American Red Cross and the National Research Council. He has been an honorary consultant to the Medical Department of the U. S. Navy since 1942.

### *DENTAL RESEARCH*

An expansion of the basic research program of the Harvard School of Dental Medicine into the causes of dental disease started this week when construction began on a new wing of the Dental Infirmary building.

Designed to extend laboratory facilities, the wing will contain two laboratories, one for general and one for radio-isotope studies, a ration room and six animal rooms, all air conditioned. Chief tenants of the animal rooms will be stock colonies of monkeys, rats, and mice all being maintained under ideal controlled conditions. The wing will extend toward Wigglesworth street from the basement of the present Dental building on the corner of Wigglesworth Street and Longwood Avenue. Foundations are designed to carry a second floor some time in the future.



# *Clinic: Cirrhosis of the Liver*

FREDERICK C. SHATTUCK\*

Gentlemen: Here you see a man, certainly in middle life and already becoming gray-haired, who is thin, white-faced, with a color which though pale cannot be described as true pallor, and whose lips are by no means bloodless. Note how prominent are his cheek-bones and the emaciation apparent in his hands and arms in contrast to his strikingly conspicuous abdomen.

He does not seem in any pain. He lies down without notable dyspnoea. His skin does not feel feverish. His pulse rate is regular, beating about 100 times to the minute.

Let us look more closely at his abdomen: it is uniformly and symmetrically big with the marks of the waistband of his trousers etched on the skin; the umbilicus is prominent instead of being depressed and the intercostal spaces are well marked.

An abdomen may be distended by gas, fluid or by a solid mass; percussion, in this case, proves that not all of the distension is due to gas for dullness and resonance follow the laws of gravity and when the patient turns on his side, where the abdomen was tympanitic it now is flat. This suggests that the abdominal enlargement is due largely to the presence of free fluid in the peritoneal cavity, or what is termed ascites.

The heart beats in an unusual place—

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\*On May 29, 1888, the Board of Overseers approved Dr. Shattuck's appointment as Jackson Professor of Clinical Medicine. He gave his first clinic as Jackson Professor to the Third Year Class at the Massachusetts General Hospital on Monday, October 1st of that year. He presented two cases: a case of typhoid fever and a case of cirrhosis of the liver. Evidently he considered the occasion sufficiently noteworthy as to justify stenographic reporting. He deposited the resultant manuscript in the Medical School Library.

Except for a few very minor editorial corrections this article describes the case of cirrhosis in Dr. Shattuck's own words. Dr. Shattuck's former pupils will enjoy reading it; alumni who never knew him may be glad to learn how clinical medicine was taught sixty-one years ago by one of the School's most beloved and distinguished teachers!

the third intercostal space—but this does not necessarily mean that it is in any way diseased. On percussion of the chest, resonance is nearly flat upon the third rib, indicating a high position of the diaphragm.

These signs confirm the diagnosis of ascites.

The common causes of ascites are peritonitis, obstruction of the portal circulation, obstruction of the general venous circulation, and hydraemia from cachexia, Bright's disease, cancer, malaria or syphilis.

This patient's age is against tubercular peritonitis and there is no evidence of tuberculosis in any other organ. He might have cancerous peritonitis; against it is the fact that there is no general glandular enlargement and no indication of cancer in any organ. Simple chronic peritonitis can be excluded by absence of tenderness. He has not lived in a malarial region and of syphilis we know nothing in his case.

In hydraemic and cachectic dropsies, the accumulation of fluid is not confined to the peritoneum. It is due to deterioration of the walls of the vessels and weakness of the heart and the dropsy appears in the legs and the general subcutaneous tissues.

Obstruction of the general venous circulation from heart disease or from chronic diseases of the lung is due to destruction of the capillaries of the lung and as a result blood is thrown back on the right ventricle. This dilates, there is giving way of the tricuspid valve and transudation of the serous elements results. Here the heart is normal to examination and there are no signs of severe emphysema or extensive fibroid changes in the lung which could produce secondary changes in the right ventricle sufficient to upset the general venous circulation.

We come to mechanical obstruction of the portal circulation. This may be exerted either on the portal vein itself, on its branches within the liver or on the inferior vena cava. In this case, in all probability, the obstruction is not due to an



1888

When we were very young: A dinner at Dr. Henry P. Bowditch's in Jamaica Plain. Dr. Shattuck, the new Jackson Professor, is seated in front, dressed in a light suit. On his right is Dr. William L. Richardson, Professor of Obstetrics and on his left Dr. Oliver F. Wadsworth, Instructor in Ophthalmoscopy.

Seated above Dr. Shattuck in a chair is Dr. Henry P. Quincy, Instructor in Histology and next to him is Dr. Edward S. Wood, Professor of Chemistry.

In the back row, standing above Dr. Shattuck is Dr. Charles E. Stedman. Next to him are Dr. Reginald H. Fitz, Shattuck Professor of Pathological Anatomy, Dr. Edward Wigglesworth and Dr. Clarence J. Blake, Professor of Otolary.

obstruction of the portal vein itself, for we know that the portal vein accompanies the bile ducts and it is almost impossible that the portal vein should become so occluded as to involve general stasis without also including the bile ducts and giving jaundice; this man is not jaundiced.

Obstruction of the portal vein or of the vena cava may come from something outside the vessel wall—a cancer tumor, let us say, pressing upon the portal vein or the vena cava and in that way involving mechanical obstruction. The most common cause of obstruction of the portal vein, however, is the disease which is known as cirrhosis of the liver, especially the atrophic form of cirrhosis.

By looking at this patient and without questioning him, by physical examination, and by deductive reasoning we have arrived at the probable diagnosis of cirrhosis of the liver. Let us now consider his history.

He is fifty years old, a mason, unmarried. He has a good family history. When he was twenty-two years old he began to drink; while never intoxicated he drank regularly every day including in his portions a considerable quantity of lager beer and, before breakfast, clear whisky.

When he was twenty-nine years old, he had strength enough of mind to give up these habits and to become more temperate. Fifteen years ago he had typhoid

fever; four years ago he had an attack of pleurisy which kept him in bed for ten days and out of work for ten weeks; two years ago he had an attack of neuralgia of the face and head severe enough to make him unable to work for a period of time and to interfere with his sleep.

His present illness apparently began three months ago. He then noticed backache, that he had to get up several times each night to urinate, and that he was passing a small amount of urine with each voiding. He next noticed slight swelling of the feet promptly followed by a need to let out his trousers because his stomach was growing so big. Finally he entered the hospital about six weeks ago on the sixteenth of August.

This history helps to confirm our provisional diagnosis of cirrhosis of the liver for we know that the abuse of alcohol is a very frequent, almost constant, factor in causing the atrophic form of this disease.

I tapped our patient's abdomen when he entered the hospital and he has been tapped several times subsequently, the last tapping being ten days ago. At each tapping he has thrown off 200 to 270 ounces of fluid—always with great relief. After each tapping I have made a careful examination of the abdomen trying to determine the presence of a tumor; palpation after tapping is negative. Percussion, however, shows that the size of the liver is diminished—another indication of the correctness of our diagnosis.

It is never safe in a case with ascites to express a positive opinion in regard to diagnosis until the fluid has been diminished either by free action on the part of the bowel or by paracentesis so that we can palpate the abdomen; while you can say positively that there is obstruction of the portal circulation you cannot express an opinion as to its exact nature and cause so long as much fluid is present. On Sunday, I tapped the abdomen of a private patient and could then feel what was impossible to feel before—a large lump, undoubtedly a new growth—in the abdominal cavity.

From looking at the patient before us and from examining him we clearly are led to suspect that he is suffering from hepatic cirrhosis of the atrophic form; his history, in most respects but not all, confirms this supposition. His history of the excessive use of alcohol for a number of years followed by an interval in which there has been no excess is striking. During the time the excess existed was just the time to lead to cirrhosis; hard liquor before breakfast carries the alcohol pretty directly from the stomach through the portal circulation thereby setting up irritation, the result of which may be interstitial growth.

I did not mention another important point in the history: he suffered one attack of intestinal hemorrhage. This occurs not infrequently in obstruction of the portal vein on account of the connection between the portal and hemorrhoidal veins. Vomiting of blood may also occur from passive congestion of the stomach wall and rupture of vessels. This did not occur in this case nor, indeed, was there any history of chronic indigestion which might have resulted from long-standing passive congestion.

There is one noteworthy and perplexing point about this man's case which deserves emphasis: the symptoms came on suddenly. Here is a man who, apart from a fairly recent attack of facial neuralgia, supposed himself in good health until suddenly he developed ascites and anasarca. Hepatic cirrhosis is a disease which is very chronic and generally latent for a long period of time. The obstruction of the portal circulation must be of high degree before it causes dropsy and the progress of the disease is so gradual that the system has time, as it were, to adapt itself to the condition. It is well known that a high degree of hepatic cirrhosis may be found after death when there were no symptoms whatever during life to indicate its presence.

Another unusual possibility should be thought of which may explain the great rapidity with which the swelling came on,



its persistence, and the rapidity with which the fluid reaccumulates after tapping. Thrombosis of a large branch or of several branches of the portal vein may have occurred shortly before this patient entered the hospital; this might explain the sudden change from a moderate degree of portal obstruction to a high degree of portal obstruction. We have indisputable evidence that such a train of events may occur; we can only suspect that it may have happened here because of the rapid onset of the ascites and its persistence.

In considering cases suspected of having cirrhosis of the liver it is well to investigate the spleen. The splenic circulation forms part of the portal system and in cases of great portal obstruction the spleen is usually, though not necessarily, enlarged; this is one of the diagnostic points. There may be perisplenitis—an inflammation of the capsule—which renders the spleen so rigid that it cannot be distended, or the portal congestion may be so much relieved in other ways that a swelling of the spleen does not occur. Free intestinal hemorrhage, for example, may prevent swelling of the spleen and also, for a long period of time, the occurrence of ascites.

A year or two ago a woman entered the hospital on a Saturday afternoon after my visit. She gave a history of very free intestinal hemorrhage lasting over a period of some months. Dr. Stevens\* examined her with great care and when I came to the hospital on Monday morning I found in his record, "No ascites". Yet when I examined her then, there was well-marked ascites. The dropsy increased so rapidly that on Wednesday I had to tap her. During this interval there had been no intestinal hemorrhage. Apparently, as long as there was bleeding the portal congestion was relieved, but as soon as bleeding stopped, transudation immediately took place.

In the patient here, conditions are difficult for determining the size of the spleen. In whatever position the man is placed, his intestines float upwards on the ascitic fluid and percussion or palpation are rendered difficult. If the spleen were much bigger than normal, it should be palpable. I have examined for the spleen several times and have been unable to determine that it was perceptibly enlarged.

Finally, in this case, I do not think that the presence of a small tumor can be excluded, lying deep and in some fashion pressing on the portal vein; nor can the presence of a specific infection be absolutely excluded. The diagnostic probabilities, however, are all in favor of cirrhosis.

If this diagnosis is correct, we have to contend with an increased growth of connective tissue in the liver. Do we know any way to limit the growth of connective tissue in the liver or to restore the organ to its original condition? The answer, I am sorry to say, is "NO!". By the time diagnosis of cirrhosis of the liver is possible, the portal obstruction must have been developing for years and the cirrhosis must have reached its late stages. There are few diseases with a poorer prognosis.

The treatment is palliative. In cases which are seen earlier in the disease, where there is an alcoholic history and perhaps a persistently diminished area of hepatic dullness—it is never safe to go entirely on one examination—if the patient can be induced to alter his habits, to eat a light and nutritious diet, and to live under favorable conditions, the fatal result can be postponed for a long time. When the disease has reached such a stage as here, and when the ascites returns rapidly after paracentesis, the probabilities are that life will not last for many months. While such a patient may live much longer than is calculated, he is unlikely to recover. Therefore, all we can do for this patient is to make him as comfortable as possible. We can offer him no specific treatment nor anything else that is directly curative.

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\* Lewis T. Stevens, H. M. S. 1887, House Pupil on West Medical Service, 1887.



It is of interest today to read and consider Dr. Shattuck's presentation of a case of hepatic cirrhosis at his first clinic as Jackson Professor given sixty-one years ago.

For clarity and completeness of observation his clinical discussion leaves little to be desired. The only possible omission is a note as to the presence or absence of "spider" angiomas so frequently encountered in this condition, and an added note as to the existence of enlarged abdominal wall veins secondary to portal hypertension. His comment on the fact that in cirrhotics, the spleen diminishes appreciably in size immediately following a hemorrhage is a pertinent one and presents a fact that is still occasionally forgotten.

Certain additions have been made to our knowledge of "cirrhosis" since 1888. Biochemical methods have contributed much to our knowledge of the pathological physiology of this disease. Histological studies of punch biopsies have permitted a much clearer evaluation of the type and actual stage of hepatic disorder in given cases. The fact remains, however, that we have advanced but little in our diagnosis of chronic liver disease since Dr. Shattuck's time. Laboratory studies frequently are only confirmatory of established or suspected clinical diagnoses, although they provide a means of following progress of disease with fair accuracy. Furthermore, little or nothing has been added to our understanding of the exact role played by alcohol in the production of this type of hepatic disorder. To be sure, we have arrived at a somewhat better conception of the part played by malnutrition in initiating or prolonging liver damage, but we still know little of the relationship between alcoholic excess and liver damage.

Dr. Shattuck's discussion of ascites and dropsy leaves little unsaid. Circulatory failure, renal failure, hepatic insufficiency, peritoneal irritation and cachexia are still the underlying causes leading to ascites and anasarca. Our present knowledge of the effects of portal hypertension, a lowered serum albumin and an excessive sodium intake may permit of a clearer understanding of the mechanism underlying the formation of ascites and the increase in extracellular fluid, but these terms are simply somewhat better expressions of

what was implied in the phrases "obstruction of the portal circulation" and "hydraemia from cachexia."

In his discussion of hematemesis in cirrhosis, Dr. Shattuck failed to mention esophageal varices, and this constitutes a rather striking omission. He did note that "vomiting of blood may occur from passive congestion of the stomach wall and rupture of vessels." He evidently was unaware of the importance of esophageal varices in the presence of portal hypertension as a source of major bleeding, a fact that is now commonly recognized and readily identified by radiological studies.

His comments on prognosis and therapy are of interest. As he takes care to point out, it is true that cases of cirrhosis may survive for a long time without symptoms. These cases we now classify as compensated cirrhosis. It is equally true, as he suggests, that ascites of long duration implies a relatively short prognosis, and it is still correct to state that "we can offer no specific treatment nor anything else that is directly curative," in most cases that are diagnosed as definite cirrhosis.

Dr. Shattuck implies the therapeutic value of a "nutritious diet," but he could not have realized the full implications of this statement, accurate though it was. Today's knowledge of the benefit provided to sick livers by rest, an adequate caloric intake and a diet containing an adequate amount of protein was not understood in the last century as it relates to metabolic needs and tissue regeneration. Certainly Dr. Shattuck would have understood and thrilled at the evidence of hepatic cell regeneration with the frequent disappearance of even long-standing ascites following the enthusiastic use of prolonged rest and adequate dietary measures. He would have been equally stirred by the recent surgical approach to the problem of portal hypertension, but he could well have stated that such advances in knowledge were not surprising in view of his clinical observation and clear awareness of the life history of chronic hepatic disease as shown in his own presentation of the patient.

Dr. Shattuck's discussion of this case of cirrhosis still points definitely to the continued necessity for sound, meticulous, clinical observation and knowledge.

# *The Shortage of Nurses*

## *Reminiscences of Alfred Worcester '83*

### PART II



In accepting the proposed professorship it was agreed that I should have two years on full salary for study of the relationship of hospitals and nursing schools with universities both in this and in foreign countries, and also for drafting a complete plan of the proposed Harvard and Simmons School of Nursing. This mission naturally involved the sacrifice of further progress in the general practice of medicine, in which I had won some distinction and great pleasure; but, armed with letters from President Eliot to our Ambassadors asking for their help, I had a fine trip. In return I wrote to President Eliot frequent reports of what I found of special interest to our own project. One of the high lights of these letters was that of a report I had made to His Majesty, King George V, at his personal request, of a visit I had made to the Sanitarium of Nordrach-on-Dee. Another episode reported was of my help from a Professor of "the care of patients" in the University of Berlin. But so far as I was able to find he was not as concerned with the

education of nurses as with that of physicians. More help came to me in Germany from the beautiful service of the Roman Catholic Sisters and the Protestant Deaconesses, and also from the marvelous efficiency of the lay nurses in the Government hospitals. I had found that the best time for investigation of that was in the early morning when the night nurses who were leaving and the day nurses overlapped for an hour, in which time the patients had been given their washing facilities and breakfasts. The absolute cleanliness of the wards and accessories were in marked contrast to the horrible condition I had seen just before in some of the city and county hospitals in my own country. And yet when I offered to the American nurses then attending an International Congress in Berlin to serve as a guide to these hospitals, my offer was declined because they had been warned by their officials to waste no time in such visits "as there was nothing worth seeing in the German Hospitals." And not yet had I found any nursing school whose primary purpose was that of training nurses for the future practice of nursing. But I was soon to find it in Switzerland. Twenty years earlier, when starting the Waltham School I had heard of the Lausanne School of La Source and had used it as a model, and now was my chance to study it. Little did I then dream that twenty years later as an American Red Cross Commissioner, I should be employing LaSource nurses for the care of sick members of my staff and of the U. S. Embassy. Better nursing than that which these LaSource nurses gave us I have never seen. Their excellence in the art of nursing was due at least in part to their unique course of training; first as assistants in the School clinic and then in the visiting nurse service, always under teachers who are masters of the art. *For nursing, as all other arts, can best be learned by imitation in actual service.* The



LaSource School was a private foundation under a physician director. Fascinated as I was by its excellence I could not find in it any such organization as I was hoping to copy for a University School. In Holland I was more successful. The White Cross there is the most perfect organization I yet have seen for unification of the nurse's education. In each grade they are paid more wages and at the end of each grade are given diplomas that entitle them to go out into that grade of service or to enter successively higher grades, which fit them for service in the specialties or even for teaching parts. This is something such as universities offer and indeed somewhat better, being fairer to the students and also to their future employers.

It is plain that such a system for the training of nurses requires for its management a Central Board of Education having full authority over the Nursing Schools. So far as I could find it was working well in Holland, where nursing is considered as a profession rather than as a trade.

The last few weeks of my mission I spent in England and Scotland, revisiting hospitals and training schools. Again I was struck with the independence of the schools. They were all *at* (but not *owned by*) their hospitals, of which their superintendents generally were matrons; or, as one might say, queens. Most of them were from the Nightingale School at St. Thomas's. It was from that school that our first American schools began. But it was in Edinburgh that I had my greatest find. Kind friends learning of my ignorance of their famous surgeon, Joseph Bell (the living original of Sherlock Holmes), urged me to call on him. I did so, and was ushered into his home office and then I stood unnoticed for minutes that seemed like hours till the old man growled out "Don't you know enough to take a seat?" This was followed by such a barrage of questions as never I had before encountered. After he had found out what I came to Scotland for, if my wife

was with me and that we should be delighted to dine with him that evening, he became more gracious. After dinner that night he kindly became interested in my problems. In answer to my question if he could recommend a matron for our Waltham Hospital who would bring to us the real Nightingale spirit, he told us of Miss Pringle, of whom I have already published a tribute.\*

Where nursing schools were run for the hospitals, or even for groups of physicians, for their pecuniary benefit, I told her that there was small chance of the survival of any real interest in the education of our pupil nurses unless we could have such help as she could bring us. Instead of being shifted to new branches of service under competent teachers, they would continue to be kept indefinitely where most useful to the hospitals. This custom was only one of the obstacles to the advancement of the nursing profession. Our need of renewed inspiration which I reported to Miss Pringle aroused her lifelong missionary spirit and she came. But alas, neither her remarkable service in England and Scotland nor her lovely personality won for her even a half-cordial reception from nurses in this country. I did not realize then how this indifference of the new national organizations of American nurses to a visit from Florence Nightingale's favorite nurse was due to their hostility to both the Waltham School and to myself personally. I was soon to learn. I was surprised by an invitation to a dinner given by the Massachusetts Nurses in honor of the officers of their National organization. Although warned by friends not to accept the invitation I did so, and, after listening to a tirade against Waltham methods from the after-dinner speakers, I was asked to come forward to be introduced to the officers of the Association. There I received such a tongue-lashing as never before nor since. My offense, as I was plainly told was in opposing their contention that hospital training is

\*In my *Nurses and Nursing*, University Press, Cambridge, Mass.

sufficient for all kinds of subsequent nursing service. Never had I disputed the obvious fact that the *science* of nursing can best be taught in hospitals. I also always believed that the great teachers of modern nursing were right in their insistence that the *art* of nursing can best be taught in home nursing, where the pupil nurse learns by imitation how to do forty things for one patient, instead of one thing for forty patients in the hospital wards.

This belief, which I have always held, was not of my own invention but came directly from the great leaders of nursing in Europe. It was confirmed by the experience of the early associations for Visiting Nurses, when not only their workers but also their officers had had only hospital training. Such graduates sometimes succeeded in learning the art of nursing from the families and doctors they served, but others failed to satisfy either. The Boston Association once called me in to tell them what was the cause of their failure. This was easy to do. I told them frankly that their nurses had not been properly trained for home nursing; and if the Association would start a school for giving such needed training all would go well. To my surprise I was asked to start for them such a school. This I could easily do, for our great teacher, Miss Charlotte MacLeod, after her glorious service as the first Chief Lady Superintendent of the Victorian Order of Visiting Nurses in Canada, and after her year's rest and studying in England and Scotland, was now free to undertake the needed school. And now as the head of the Boston School and its home for pupils she was to make a great success of it. She persuaded the city doctors to tell the nurses what kind of nursing service they wanted. She went the rounds with her pupils teaching the difference of home from hospital nursing. This was the first school of its kind in America. Unfortunately in after years this school was merged with the School of Public Health at Simmons College. The spirit of it was thus lost as I found only too clearly when I was

trying to salvage the Waltham School's principles by suggesting to the School of Public Health that they give their pupils a course of training in actual visiting nursing service. I was told by the courteous Superintendent that she herself would like to have it, but that such a course would not be allowed by the National Associations of Public Health Schools which forbade any actual nursing service by their pupils. But, as she added, there probably would be no objection to having their pupils, as observers only, visit our Waltham Visiting Nursing Services.

This illustrates the great difference between what the Schools of Public Health are aiming at and what the Waltham School was trying to do in imitation of the Queen's Jubilee nurses. Doubtless American Public Health Nurses have been of very valuable assistance to the public both in the State and National Health Organizations, which are still doing a great work in the prevention and elimination of contagious diseases. But such schools are doing nothing towards the relief of the growing shortage of home and family nurses.

In the winter of 1892 I first met General Armstrong, one of the greatest men I have ever known. In some way he had heard of the Waltham School and that I was on a vacation nearby. He sent for me to advise possible improvement in his Hampton School Hospital which then was in a deplorable condition. The untrained Negro nurses had not even a separate bathroom. They slept at night on the corridor floors and had their meals in the kitchen. I told him that if he could provide a suitable home for the nurses and employ one of our Waltham graduates as Matron, he could start a Nurses Training School which the Hampton Normal School would be proud of. When he found what would be the cost of such a Nurses Home he said that he had just received a bequest from his mother that would meet the cost of it. Within a few months the Home was built and one of Waltham's best graduates, Miss Con-



nacher, was organizing the first training school for Colored Nurses. Its graduates started similar schools in many of our Southern States. Some of their Superintendents used to write to me reports from "Waltham's Grandchildren." These schools have been very successful, and very loyal to Waltham ideals, and also to the traditional charming motherliness of Negro women.

It has been well said that the advance of any profession depends upon recognition of its failures rather than of its successes. The truth of this old saying finds ample illustration in our study of the causes of the present shortage of nurses. In its early years the advance of the profession was phenomenal. Then in the early years of this century its progress began to slacken. Only lately have the causes of failure been recognized and its resumption of advance thus become assured. Readers of preceding pages may have anticipated my contention that the leaders of the nursing organizations in America, having themselves received only hospital training, have secured legislation prohibitive of any other kind of school. Moreover, the requirements of the hospital schools, as to previous education, prevent enough entrants for the hospitals' own requirements, let alone private home needs.

No one who knows anything about the subject will ever dispute either the hospital dependence on a large supply of pupil nurses, or the public need of nurses who have had a considerable part of their training in hospital service. The pity is that so few seem to understand the equal necessity that all thoroughly trained nurses should also have had a considerable pupil service in home nursing under competent teachers of this art. Great as has been the growth of visiting nursing in the present century, it would have been much greater had the new organization had a sufficient supply of such doubly trained workers, even if only enough for their teachers and superintendents, or, in lack of it, if they had undertaken training

schools for new aides as well as for hospital graduates. I have already given in these reminiscences an illustration of the disregard for training in home nursing in the ruling of the Association of Public Health Nurses that its pupils should have no actual service, although they might visit other schools but for observation only. Another instance of the self-sufficiency of hospital training even more absurd came under my notice in Canada, when for the position of Chief Lady Superintendent of the Victorian Order of Visiting Nurses, an application came from an American nurse who proudly admitted that she had never had even a day of training service outside of hospitals.

In any impartial survey of American nursing history the method of training with which I have been more or less connected will have to be rated as a failure. These discarded methods were attempted reproductions of Fliedner's conceptions, and approved by Florence Nightingale and her associates who started the first hospital training schools in this country.

After the Waltham Training School was crowded out by the Registration of Nurses' legislation the Waltham School undertook the training of attendant nurses, in a course very like that of the early classes in the regular school. These new pupils gave valuable service as aides to fully trained nurses as well as to families that could not afford R.N. service or really needed it. From their first day they were assured of comfortable living and moderate wages and of service under the close supervision of competent teachers. In large measure they supplied the admirable service given by the regular pupil nurses that for several years had been so sadly missed by this community. But our new school was short lived. Like its predecessor it was soon suppressed by the State Board of Registration's ridiculous requirements, as, for example, that of the amount of pupil service under only R.N. teachers. Thus this source of supply of pupil nurses so sadly needed both by the hospitals and by the community was cut off.

Even if it be granted that nurses highly educated and of exclusive hospital training are desperately needed both in the overcrowded hospitals and in homes where temporary hospital facilities are necessary, it is just as true that in a vastly larger proportion of cases partially trained nurses are perfectly sufficient. Is it then not as plain as day that the present dreadful shortage of nursing service can be retrieved only by a great increase of pupil nurses serving only a part of their pupilage in hospitals? Even if it be granted that nurses exclusively trained in hospitals are perfectly sufficient for all other kinds of nursing service, is it not plain that other training schools are needed to meet the needs of the community? Despite the growing custom of depending upon hospitals and nursing homes as the proper place in which to be born and die, such accommodations will never be sufficient even in number. It may yet become necessary for young couples to build log cabins to live in but for family exigencies there will always be need of nurse assistance. It is unlikely that the custom of neighbor nursing will ever be revived, or that of "experienced nurses." Where then shall we look for relief?

The double use of the word *nursing* is curiously suggestive of motherliness, especially when the care of infants is under consideration. And the care of the helpless aged is not unlike that needed in the care of infants. Special hospitals and special nurses will always be needed for special cases, but it is also apparent that even in numbers alone, the ordinary family needs could not thus be supplied, unless indeed ten times the present ratio of hospitals to population should become available. Need we go further in our search for causes of the present nursing shortage? To meet it the hospitals as well as the other institutions dependent upon nursing service which are now employing nurse's aides will have to continue so doing.

Although present conditions are chaotic, yet in this movement, as I believe, lie the germs of relief from the present nursing

shortages. As I look back upon those years before there was a single trained nurse in New England, I vividly remember what immense relief was brought to us by the pupil nurses. Nor have I forgotten when my dying mother, almost with her last breath, begged that the pupil nurse who had been most skillfully and tenderly caring for her "should stay in Waltham after your graduation."

While many of our graduates, like this Miss Zwicker, continued winning fame in private nursing, some of them became superintendents of the new schools that were being started in other villages, and others became matrons of the various institutions started by their mother school—The Waltham Hospital, the Baby Hospital, and the Visiting Nurse Association—all of which finally became separate incorporations. The first of them, soon after the mother-school suspended, established its own training school on the regular pattern of the American Hospital Nurses Association. It is in the last named institution, the Waltham District Visiting Nursing Association (which is believed to be the first American training school for such nurses) that our hopes lie for a Waltham revival of pupil-nursing outside of the hospitals. The only change needed to effect this purpose is an extension of the Visiting Nursing to both day and night service of nurse-aides. If an attractive course should be offered tomorrow, by the next day there would be a flood of pupil applicants. And as soon as such extensions of Visiting Nursing Institutions became general the end of the present nurse shortage would be within sight. There would be no need of another organization. Any one of the hundreds of visiting nursing associations in this country might start the movement to-morrow by offering a two year course of training nurse-aides, on such terms as would attract young women from competing factory offers of employment. But I must not include in these reminiscences my conceptions of how the future Nurses-Aides will solve the present nursing shortage.

*Special Meeting of the  
Eastern Association of Electroencephalographers  
on February 19 and 20, 1949,  
at the Harvard Medical School,  
in Tribute to  
Doctor Alexander Forbes*

ADDRESS BY DR. RICHARD H. MILLER AT THE DINNER ON THE EVENING OF FEBRUARY 19



ALEXANDER FORBES, '10

When I was invited, some time ago, to contribute a paper at this meeting, I was very surprised and flattered. I replied at once that, as my work with Doctor Forbes, assisting him in his early experiments with the string galvanometer, had ceased 25 years ago, I could not present a scientific offering; I would, however, be happy to say a few words in appreciation of him, confining my remarks mostly to his many non-physiological, or extra-curricular, interests and achievements. I have been delighted to find myself one of the few speakers this evening, but as the time has approached

and I have gathered more and more information about him, I have been increasingly impressed with the answer given by the late Chauncey Depew, when some one asked him how long it took him to prepare a speech. He replied, "It all depends on how much time I am given; if I have two or three hours, or if there is no limit, then I need no preparation at all; if I have only half an hour, I need three or four days; but if I am cut to ten minutes, or even fifteen, then it takes me three or four weeks."

A few nights ago I was wondering how I could best start what I wanted to say, when I thought of a book that I had just been reading in Greek—Homer's *Odyssey*, about Odysseus, or Ulysses, a remarkable character who lived many centuries Before Christ. I memorized some of the verses, and will quote you the first three—

Ἄνδρα μοι ἔννεπε, Μοῦσα, πολύτροπον δὲ μάλα  
πολλὰ  
πλάγχθη, ἐπεὶ Τροίης ἱερὸν πτολίεθρον ἔπερ-  
σεν·  
πολλῶν δ' ἀνδρῶπων ἶδεν ἄστεα, καὶ νόον ἔγνω·

These mean, being interpreted, "Tell me, O Muse, of the man of many devices, who wandered full many ways, after he had sacked the sacred citadel of Troy. Many were the men whose cities he saw and whose minds he learned". Isn't that Alexander Forbes? A man of many devices, (a good expression!), who has wandered many ways, who has seen the cities, or places, of many men, and learned their minds? Like Ulysses, he is a careful, though fearless traveller on the seas, and a studiously skilfull navigator of small craft



in uncharted waters. He has, when possible, avoided unnecessary danger, but there is no reasonable doubt that, when he has locked his laboratory door, and started out on some of his venturesome quests, death has walked, not infrequently, behind him, regarding him with a speculative eye, and saying to himself, "Now, I wonder about this man—I wonder".

In the Fall of 1906 a happy circumstance led me to the doors of the Harvard Medical School, where I was accepted as a new student, and at once met my class-mate, Alexander Forbes. We became companions, and soon good friends; I saw a lot of him, not only in the School, but I visited him at his home in Milton, at the Island of Naushon, and once went on a cruise with him. In the School he impressed me by three of his outstanding characteristics: first, his friendliness; second, his ever-present sense of humor, which led him to see something amusing in every situation, however grim, and which never failed to call forth a whimsical quip or pat little story; and third, his insatiable thirst for knowledge. He wanted to know the reason for everything—to look inside and see what made the wheels go round. This third trait was clearly evidenced by the fact that, while still an undergraduate in the School, he wrote, with the assistance of older members of the Faculty, four scientific papers; all of these were published, though they were not strictly physiological.

After graduation, in 1910, our paths separated until they again crossed in 1914. He was preparing himself for research in neuro-physiology, while I was being trained to be a clinical surgeon. In 1911 and 1912 he studied with Sherrington in Liverpool, then for a short while with Keith Lucas in Cambridge, and off and on with Williams in New York. Later, in 1921, he worked with Adrian in Cambridge.

I had long since become cognizant of his many interests and accomplishments. From the high and far-off times I knew of his joy and skill in driving, or piloting canoes through the quick water of rapids;

of his ability as a rock-climber; and, somewhat later, of his skiing. Before all else, however, I knew of his uncanny ability in navigating small craft (by small I mean 65 to 100 or more feet over-all), in perilous coastal waters. I did not know until later, however, that in 1911 he studied the soaring of birds, and that in the January issue of that ornithological journal, "The Auk", he published a scientific paper of which the title was "Concerning the Flight of Gulls". In this he explained the previous observations of W. Brewster, who had seen gulls keep abreast of a steamer going 15 knots against a 35 knot head-wind, for more than a mile, without even a beat of their wings.

He acquired a string galvanometer, and in 1914 asked me if I would like to assist him in some of his work in neuro-physiology. I was, of course, delighted, and we spent many and many happy and instructive hours in the laboratory from 1914 to 1916, and for some while after 1919. I was in a Regiment of Field Artillery from 1916 to 1919, and Dr. Forbes received a commission in the Navy early in 1917. Early in his naval service he for two months commanded a Patrol Boat out of Newport, R. I., after which he was detached from active duty to do radio research. He was on radio compass duty from February 1918 to February 1919, and of this time he was in European waters from June to November, 1918. One of his chief tasks was in the Naval Bases of Southern England and Ireland, installing, on United States warships, radio-compasses; the radio-compass is a radio receiver with a rotating loop, and it enables the men on the ship to ascertain the direction from which enemy submarine radio-messages, or signals, are coming.

After World War 1 he wrote a book called "The Radio-Gunner", which was published anonymously by Houghton Mifflin Co. in 1924. His chief object was the character development of the Gunner; to do this he had to use the radio-compass, with an imaginary second war as a back-

ground, or stage-setting. He recently wrote me, "It was an amazing coincidence that the second world war resembled so closely the imaginary war in the story."

In 1905 he became greatly interested in a philanthropic project, The George Jr. Republic, in Freeville, N. Y. This is a co-educational enterprise, and is a self-containing community of about 100 young men and women; they run this themselves, elect their own administrative officers, and handle all their own problems. Dr. Forbes' interest in it has lasted for 44 years, and for the past 21 years he has been, and now still is, the President of it. In this place the young people acquire an unusual comprehension of their future civic duties, and are thereby developed into potentially valuable citizens. I doubt whether Dr. Forbes, himself, could estimate how much time he has devoted to this organization.

During all the years since graduation, however many and diverse were his outside interests, he steadily kept up his scientific work in the Physiological Laboratory of the Harvard Medical School.

In 1929 he learned to fly, and in 1930 acquired an airplane. Here I may interject a short story told me by our mutual friend, Dr. James Gamble, Professor of Pediatrics at the Medical School, whom Dr. Forbes invited, together with Dr. Hallowell Davis, to take an air trip with him to the coast of Maine. They started off without mishap, and were soon flying over the coast at a height of several thousand feet. Before long Dr. Gamble wanted to ask Alex something about the terrain over which they were flying; this he did, but the noise of the engine was so great that the latter could not hear a word, so he did the natural thing, which was to throttle the engine down. The result was that the roar of the engine was lessened markedly, but of course the plane at once lost head-way, and began to glide toward the earth; this terrified further speech out of Dr. Gamble, and other questions were not forthcoming.

In 1931 following Dr. Grenfell's sugges-

tion of mapping certain fiords in Labrador, especially, as will be later seen, the Northern portion, Dr. Forbes consulted The American Geographical Society, which agreed to sponsor the expedition, putting one of their men, O. M. Miller, in charge of the survey. Dr. Forbes procured a 98-foot vessel, "The Ramah"; he navigated this through the dangerous and uncharted waters there, and flew over and photographed the land. In 1935 he flew there again, in a sea-plane, to conclude certain aspects of the work. All this resulted in a sizeable book, put out in 1938 as "Special Publication No. 22", of The American Geographical Society, and entitled "Northernmost Labrador Mapped from the Air", by Dr. Forbes, with minor contributions by O. M. Miller, N. E. Odell, and E. C. Abbe. For this the Society awarded Dr. Forbes the Charles Daly Medal for Conspicuous Geographical Achievement. Incidentally, cutting across Northern Labrador, there is a narrow body of water, called "The McLellan Strait"; the Geographical Board of Canada has named the Western entrance to this strait "Forbes Sound", and the Eastern one "Grenfell Sound". When all this exploration had been concluded, Dr. Forbes sailed "The Ramah" across the Atlantic to Naples, where he disposed of her, after a cruise in the Aegean.

In 1934 he published a small, but highly regarded manual, entitled "Offshore Navigation in its Simplest Form".

Alexander Forbes continued his physiological studies until, in 1940, he returned to active duty in the Navy, and was sent to Pensacola, to supervise the taking, and study of, brain waves in 800 or more cadets. In 1942 he went to Frobisher Bay, Baffinland, attached to Army Engineers, but during that same summer he was given an additional assignment by the Navy. The following year, 1943, the Navy sent him back to Frobisher Bay in charge of a hydrographic survey.

A recent and popular book, by a young Army Medical Officer, David Bradley, ("No Place to Hide", about Bikini, pub-

lished by Little, Brown and Company), gives a lot of space to Alex Forbes and what he did at those Atom-bomb experiments. Instead of reading, or quoting, what the author said, I will say, first that the Navy sent Alex to the Operation Crossroads, which is enough to make any man very proud, and second that he belittles what he had to do, which, in his own words, was "My assignment was a very small part of the Navy's share in that, namely, the photogrammetry of measuring the water waves set up by the second bomb". I wish I were as modest.

Twice, in the past month, I have visited Dr. Forbes in his laboratory at the Medical School, and each time he seemed to me to be working as hard, and to have the same vigor and enthusiasm as he did forty years ago.

From what I have said here this evening you have certainly become aware of my profound admiration for him. I am very proud to be allowed to add my bit to your tribute to a great scientist, an internationally known physiologist, a fearless investigator and adventurer, and a gentleman without peer.

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## *Harvard Medical Society Meetings*

### *APRIL MEETING*

The Harvard Medical Society met at the Massachusetts General Hospital on the evening of April 11. Talks by Drs. J. C. White and W. Sweet comprised the program for the evening. Dr. Simeone presided as chairman.

Dr. White discussed "*The Anatomy and Physiology of the Splanchnic Pathways from the Viscera*." He devoted the first part of his discussion to a summary of the most important previously known facts about visceral sensation. He cited the demonstration by Hurst in 1911 that distension is the physiological stimulus to the nerve endings in hollow viscera, while ischemia subserves this function in solid organs. Dr. White stated that such stimuli travel in mixed visceral nerves to the spinal cord. These nerves contain C fibers which give rise to disagreeable sensations when stimulated. C fibers do not synapse in the sympathetic ganglia. It is probable, according to Dr. White, that the impulses carried by these nerve fibers cross almost completely to the contra lateral side of the spinal cord

before ascending largely in the anterior spinothalamic tract.

The localization of visceral sensation is poor because of the relative paucity of nerve endings in the viscera and lack of experience in localizing deep visceral pain. Mechanisms which help to accomplish localization include referral of sensation to the area of distribution of somatic afferents which enter the spinal cord at the same segment in which the splanchnic afferents enter, and stimulation of somatically innervated serous surfaces like the parietal peritoneum and the pleura by inflamed organs. Dr. White emphasized however, that deep visceral pain is not abolished by section of the somatic afferents from areas to which pain is referred, but is removed by splanchnicectomy in the case of abdominal organs.

Dr. White then described some of his experiences with the surgery of visceral nerves. He has found that, whereas the vagus nerve carries sensory fibers in the neck and thorax, it does not in the abdomen. His results indicate that visceral



pleura is insensitive. The parietal pleura in contrast, is innervated by somatic nerves, branches of the brachial plexus (apex), intercostals (parietal) and the phrenic nerve (diaphragmatic). Chemical destruction or extirpation of the first through the fourth thoracic sympathetic ganglia or section of the corresponding posterior spinal roots was found to relieve the pain of angina pectoris. Pain from aneurysms of the aortic arch can be relieved in similar fashion.

Experience with abdominal organs included successful removal of bile duct pain by right splanchnicectomy, and relief from pain associated with carcinoma of the liver by destruction of the sixth through the tenth thoracic sympathetic ganglia. He cited equally successful results in pancreatic fibrosis with stone formation, and also in intractable renal pain after resection of the splanchnic nerves and thoracolumbar ganglia.

In conclusion White emphasized the value of regional denervation by sympathectomy in all cases in which pain arises from lesions confined to the viscera. In carcinoma, where pain is rarely experienced until the disease has invaded sensory somatic structures, a more radical transection of the spinothalamic tract is usually necessary.

Dr. W. Sweet discussed *"The Anatomy and Physiology of Pain Pathways in the Brain Stem and Spinal Cord."* He commented on the difficulties encountered in attempting to denervate areas for relief from intractable pain. The variable success of antero-lateral cordotomy in such cases can be attributed, he stated, to the presence of pain afferents in other parts of the spinal cord besides the anterior spinothalamic tracts. Some pain fibers apparently ascend in the posterior columns since stimulation in this region occasionally produces pain. Furthermore there is probably some ipsilateral transmission of pain in the anterior spinothalamic tracts since antero-lateral cordotomy is followed by slight loss of ipsilateral pain perception. The success of cordotomy cannot be predicted from the

results of spinal anesthesia, since Dr. Sweet reported relief of phantom limb pain by cordotomy in a patient who had not been helped by spinal anesthesia. Dr. Sweet was able to confirm for man the observations made on monkeys by others concerning localizations of pain fibers in the anterior spinothalamic tracts (i.e. cervical fibers most medial, flanked by thoracic, lumbar and, most lateral, sacral fibers).

In the brain stem the anterior spinothalamic tracts lie very lateral in close proximity to the ventral and dorsal nuclei of the trigeminal nerve. Resection of these nuclei often leads to complete contralateral analgesia. Dr. Sweet described his treatment of intractable facial pain. He sections the tracts of the V nerve at the level of the beginning of the open part of the 4th ventricle. Such a section usually also divides the nearby anterior spinothalamic tract. Patients so treated have been followed for as long as fourteen years with no return of sensitivity to pain.

Dr. Sweet then discussed the "thalamic syndrome" of diffuse intractable pain. Lesions in the medial-ventral nucleus of the thalamus produce this syndrome. Lesions in the lower medulla near the anterior spinothalamic tracts have also been known to cause the syndrome.

### MAY MEETING

The May meeting of the Harvard Medical Society convened in the Building D Amphitheatre on the evening of May 10. The program for the evening was provided by the Department of Pharmacology. Dr. Krayer was chairman for the meeting.

Dr. Avram Goldstein presented the first paper on the subject, *"Plasma Prostigmine Levels and Cholinesterase Inhibition in Dogs and Myasthenic Patients."* He described two cholinesterases: one, found in erythrocytes and at the myoneural junction, catalyzes the hydrolysis of acetyl choline primarily; the other in blood plasma, enhances the splitting of all choline esters and is probably not related to the physiology of acetyl choline. He measured plas-

ma cholinesterase by the rate of evolution of  $\text{CO}_2$  in a Warburg vessel using acetylcholine as substrate. With this technique, it was possible to measure plasma prostigmine concentrations as low as 0.006 micrograms per cc. in dogs and 0.02 micrograms per cc. in humans. Dr. Goldstein described the effects of inhibiting plasma cholinesterase with prostigmine in dogs. It was found that no changes were detectable unless the enzyme activity was reduced to less than 10% of the normal value. Signs of increased parasympathetic activity then appeared. Below 3% of normal plasma cholinesterase activity neuro-muscular changes were observed. In patients with myasthenia gravis increased parasympathetic activity was seen when plasma cholinesterase concentration was less than 15% of normal.

Drs. Douglas S. Riggs and John B. Stanbury reported on "*Iodide Excretion in Dog and Man.*" They found that iodide excretion by the dog's kidney was very slow when chloride excretion was minimal. Increased chloride clearance was associated with increased iodide clearance in this species. In contrast, renal excretion of iodide was found to be almost independent of chloride excretion in man.

Dr. Albert Wollenberger next described the "*Effects of Cardiac Glycosides on Cardiac Tissue Metabolism.*" He found that ouabain first increased and then decreased the oxygen consumption of slices of guinea pigs' left ventricle when these substances were incubated in a Warburg vessel in the presence of glucose. Digitoxin has a similar but more powerful action. K-strophanthin produced a weaker but similar effect on the oxygen consumption of slices of guinea pig heart. None of these drugs stimulated oxygen uptake in the absence of glucose. The inhibitory effect of ouabain on oxygen uptake was not obtained in studies on the dog heart in vivo. There-

fore, this in vitro action does not explain the toxic manifestations of ouabain overdosage. Dr. Wollenberger concluded that the cardiac glycosides increase the heart's ability to metabolize available substrate.

"*The Action of Pure Veratrum Alkaloids in Human Hypertension*" was then discussed by Dr. Edward Meilman. He described work done in collaboration with Dr. Otto Kraye. He described the effects of two pure Veratrum alkaloids in humans. Veratridine was found to have side effects such as nausea and vomiting at doses which produced a fall in blood pressure. Protoveratrine, although a toxic agent, could be administered intravenously at doses which produced significant decrease in blood pressure and heart rate in hypertensive patients without toxic side effects. If marked bradycardia or heart block did occur it could be controlled by atropine without nullifying the vasodepressor action. The drug also caused a return of inverted  $T_1$  to upright in the electrocardiogram of some hypertensive patients during the period of lowered pressure.

Dr. Otto Kraye concluded the meeting by describing "*Antagonists to the Cardioaccelerator Action of Epinephrine.*" He stated that a group of the veratrum alkaloids are the only drugs known to inhibit the cardioaccelerator action of epinephrine. Veratramine, one of these compounds, was found to cause a specific decrease in the rate of the dog and cat heart under the influence of epinephrine. Veratramine appeared to act on the pace maker. The drug was also found to inhibit the cardioaccelerator effect of norepinephrine and of the electrical stimulation of the accelerans nerves. Atropine does not modify the veratramine effect. Veratramine does not interfere with the positive inotropic action of epinephrine nor with its vasopressor effect.

## *Osler and the Doll Rosalie\**

The following letters were written by Sir William Osler to Susan Revere Baker and her mother, Mrs. Roland Baker. The letters cover a period of time from 1909 to 1919. In 1909, Susan Baker was a little girl of eight to whom Doctor Osler was deeply attached. The friendship began in this way: The Baker family at one time lived in Canton, Massachusetts. Also living in Canton was a family of Reveres, descendants of Paul Revere. Mrs. Baker and Mrs. Revere were great friends. The friendship was so strong that Mrs. Baker gave her daughter, Susan, the middle name of Revere. Subsequently, one of the daughters of Mrs. Revere married Doctor Osler. It was his first marriage, Mrs. Osler's second. One child, a son who was named Revere, was born of the marriage.

In 1908 or 1909 the Baker family went abroad for a year. In Rome they stayed at the same hotel where Sir William and Lady Osler were staying. Susan had brought with her a favorite doll named Rosalie. Rosalie is described as having coarse black hair, a rather dirty face, and as being a little shop worn. When the Bakers were in Paris, Susan acquired a new and much more magnificent doll named Marguerite. Rosalie and Marguerite figure prominently in the letters written by Doctor Osler.

The following letter was written (probably in February, 1909) by Doctor Osler to Susan who had gone with her family to visit Capri. Susan left the precious Rosalie in Doctor Osler's care. He promised faithfully to put Rosalie to bed each night, to dress her in the morning, and to take her mother's place, in general. Not having a nightdress, Doctor Osler each night, after undressing Rosalie, put her to bed in the leg of his pajamas. Then he carefully put her to sleep in his own bed. It is said that Lady Osler was extremely embarrassed

each morning when the chamber maid found the doll in the bed!

(Parentheses are editorial corrections).

\* \* \* \*

Hotel Royal  
Rome

Miss Rosalie sends her love to her grandmother and is very sorry to say that she is not very well this morning. As she had not her nigh[t] clothes she had to sleep in her day clothes, and in consequence has a headache. She has sent for the Doctor and is staying [in] bed, & would like to see you[.]

\* \* \* \*

Letter to Rosalie, envelope postmarked April 12, 1909, and addressed to Susan, % Roland Baker, S. S. Adriatic, Southampton.

13, Norham Gardens,  
Oxford.

My sweet Rosalie

Will you please tell your *Ma*, Susan Revere Baker, that I am laid up with a heavy cold and shall not be able to be on the steamer with you. I am very sorry. Do not wash your face on the voyage, and if you are sea-sick make that horrid Marguerite wait on you[.] Give your mother my love and say I shall see her in Boston very soon[.]

Your loving grandfather  
Wm. Osler

\* \* \* \*

Letter written by Rosalie to her mother, Susan Revere Baker. Doctor Osler wrote this letter around April 12 or 13, 1909, to Susan when she was in Capri.

Hotel Royal  
Rome

My dear Muz.

Your letter came this morning. I am very well but the baby was upset this evening. Her little breadbasket turned upside down on the floor—spilt everything there was in it. The wet-nurse is still very wet and good. We hope you will like the name I have given to the baby Whilemina. Dr[.]

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\*Letters and anecdotes compiled by Lewis Gregory Davies and printed with the permission of the Oxford University Press, Mrs. Roland Baker and Mrs. Susan Revere Baker Winsor.



Osler was not very good today—he laughed when Whilemina upset herself on the carpet, and he tickled me at the dinner table & I choked when I had a mouthful of soup[.] ,

Give my love to Grandmother & Grandfather Baker[.]

Your affectionate  
daughter—  
Rosalie.

Thanks for the new hat. I want new pantalettes very badly[.]

\* \* \* \*

Letter written to Mrs. Roland Baker, at Woodland Farm, North Hampton, New Hampshire, postmarked May 20, 1909:  
Canton [Massachusetts]

Dear Mrs. Baker

I was so sorry to miss you all. I had no idea that you were going to the boat. I shirked it on account of my recent influenza & my larynx is still sensitive. Additionally sorry to miss my playmate, Susan. Give her my love and ask her to be very careful of my sweet Rosalie[.] She must cable me if she gets the measles—or whooping cough—I am glad to hear that Marguerite has got a dirty face.

Yours sincerely  
Wm. Osler

I wish indeed that I could visit you at the farm—better luck next time!

\* \* \* \*

Post card written to Madame Roland Baker, 53 rue Rennequin Ave., Niel, Paris, in 1909. (Note: the Oslers had an apartment in Paris. The Bakers, while in Paris, were frequent guests in the Osler Home. Susan recalls that when her father returned to America, leaving her and her mother in Paris, she and her mother spent Christmas Day with the Oslers. She also remembers that one of Doctor Osler's favorite tricks at meals was to take a piece of bread, spread it with every sauce and condiment on the table, roll it up, and have the maid deliver it to Susan's place at the table!)

Monday am

Dear Mrs. Baker

Grace [Lady Osler] will not be back until Tuesday eve. late. She tells me that you & Susan & Marguerite & the darling of my heart were coming to lunch. Alas, I have accepted an invitation! So sorry. I hope you will come in for tea on Wednesday. We leave Thursday am.

Yours sincerely  
Wm. Osler

\* \* \* \*

Letter from Doctor Osler to Susan, 41 Warren Street, Salem, Massachusetts:

Sept. 2nd [1909?]  
13, Norham Gardens,  
Oxford.

Dear Susan

Your picture with the pigeons came today and I am delighted with it. You are an angel to have sent it. I never saw a sweeter picture. We are all so charmed with it. I do wish you were here that I might give you a hug and a kiss[.] How is my sweet Rosalie? Do be very kind to her—& please do not wash her face too often—once a month is enough. You must come over next year—perhaps your mother would allow you to stay with us[.] Bring the dear Rosalie too—the other very horrid girl can stay at home! unless she promises to be awful kind to Rosalie[.]

My love to your mother and father  
Your affec friend

Wm. Osler

\* \* \* \*

Christmas card to Susan (probably Christmas, 1909?):

Dear Susan

I wish you were here for Xmas. I send my love and 15 kisses for my sweet Rosalie. I hope the dear thing has had her face washed since I saw her last. Give my love to your mother & father[.] Revere sends his to you.

Your affectionate friend  
Wm. Osler

\* \* \* \*



Letter written by Doctor Osler to Susan Revere Baker, 41 Warren St., Salem, Mass.:

13, Norham Gardens,  
Oxford.

April 27th, 10.

Dear Susan,

It was so sweet and kind of you to send that nice photograph, I have got it in my room next the great big one which shows you feeding the pigeons; only I do feel a bit sad that you have not on your lap my darling Rosalie, instead of that stuck-up, overdressed, disagreeable, plain Margarine! I do hope you have washed Rosalie's face this year, and given her a clean petticoat and some new gloves!

I am sending you a photo. Revere is at home, but is just going back to school.

Give my love to your Mother and Father and the boys. I hope to see you in the summer, and then I shall bring back Rosalie to live with me, please tell her and give her a kiss.

Yours affectionately,

Wm. Osler

Kisses { X X X X FOR YOU  
          X X X FOR ROSALIE  
          x for Marguerite  
          \* \* \* \*

Post card written to Susan in Salem, Mass., from Cairo, February, 1911:

Dear Susan

My love to the darling Rosalie. The bulrushes have gone & so have Moses & the daughter of Pharaoh but they show the place all the same. Love to Mother & Dad[.]

Yours

W. O.

\* \* \* \*

Letter to Susan, written April 30, 1913, and sent to Salem:

Wednesday  
305 Walnut Street  
Brookline [Mass.]

Dear Susan

I am so sorry not to be able to see you—and your mother—and your father—and the boys—and the dogs—and the dolls,

particularly my beloved one! I have only today here, and leave tomorrow morning early[.] The Revere girls come back to us next month. We have great fun together[.]

With love to you all

Your affec. friend

Wm. Osler

\* \* \* \*

Letter to Susan, written to Woodland Farm, North Hampton, N. H. (soon after the death of Osler's son):

From the Regius Professor of Medicine,  
Oxford. 28.IX.17.

Dear Susan

Thanks for your sweet letter. It is a hard blow for us. He was such a lovable laddie & so devoted to his home. I wish you could have met him of late, as he had developed into such a fine man & so keenly interested in all the better & brighter things in life. Our hearts are broken, but we must face the world bravely. There is much yet to do. We tried to get into touch with your brother as he passed thro to Southampton but failed. Mrs[.] Chapen wrote but has not yet heard. I do hope he will be able to come to us if he gets leave[.] Love to the dear father & mother.

Affectionately yours

Wm. Osler

P. S. You are on my mantel piece—in very choice company—Tis such a dear picture.

\* \* \* \*

Letter to Susan, in Boston, Mass.:

22.III.19

13, Norham Gardens,  
Oxford.

Dear Susan

You have been on my desk for several months, looking perfectly angelic. I just love the picture and your face is so little changed. I have the other lovely one on my mantle piece, and I often say "good morning" to you. 'Big Sue' & 'Little Sue' are here—both so busy. They sail before

long. We keep well—though with aching hearts for our dear laddie. Love to your father & mother & it must be so nice to have the boys home.

Yours affectionately  
Wm. Osler

\* \* \* \*

Letter to Susan, written upon the occasion of her engagement:

26. VII. 19  
13, Norham Gardens,  
Oxford.

Dearest Susan

How glad I am to hear that you have consented to look after a really nice man! I do hope he is up to *our* standard! I am sure he is, but you are something very, very extra & as I always told you—you look after that angelic mother. How I wish we could see you! Do bring him over on your wedding journey, & come to us!

Grace sends love & best wishes.

Yours affectionately  
Wm. Osler

\* \* \* \*

*Note:* Susan remembers an illness in Rome, when Doctor Osler attended her. The room had in it a sort of clothes rack on which hats, coats and dresses were hung. When Doctor Osler came to call, he would take his cane and remove with it a hat from the clothes rack. He would

then twirl the hat around and around on the end of the cane until it sailed off into the air. This would be repeated with dresses and coats until the floor of the room would be strewn with clothes. Susan's mother, an exceptionally neat person, who disliked intensely disorderliness, never seemed to mind coming home and finding the room in a complete turmoil, so long as Doctor Osler was the offender. Another favorite ceremony was the measuring of Susan's small nose, whenever a professional call was made. Very carefully, and with due ceremony, he would measure her nose to make sure that it was not growing too large!

*Note:* Susan also remembers a visit that Doctor Osler paid to their farm in New Hampshire. Upon arrival, he stood at the door and asked Susan if Rosalie were there. Susan replied that Rosalie was not there—that she had given Rosalie away. Whereupon Doctor Osler said that he would have to go away if he could not see Rosalie, and he then turned and walked down the steps. Susan remembers that she felt crushed by this, because in her small mind she had always had the feeling that perhaps Doctor Osler cared more for Rosalie than he did for her, and for this reason she had considerable resentment towards Rosalie. She rushed down the steps after Doctor Osler, took hold of his hand, and begged him to come back, which, of course, he did.



# *Associated Harvard Clubs Meeting*

## *In San Francisco*

Plans have been announced for what promises to be one of the most colorful and important of Harvard Alumni reunions. President James B. Conant, '14, and other prominent Harvard leaders will be in San Francisco September 9, 10, and 11 for the Associated Harvard Clubs annual meeting. President Conant will be moderator at the "Town Hall Meeting" on Friday evening and speaker for the annual banquet Saturday evening.

Coming to San Francisco in addition to President Conant will be several other prominent deans and campus leaders including the following: Provost Paul H. Buck, Ph.D. '35; Dean of the College, Wilbur J. Bender, '27; Dean of the Business School, Donald K. David, Bus. '19; Dean Gordon M. Fair, '16 of the Engineering School; Vice-Dean of the Law School, Livingston Hall, Law '27. The representative of the Medical School had not been announced as the Harvard Medical Alumni Bulletin went to press.

Headquarters for the meetings will be the Fairmont and Mark Hopkins Hotels on top of Nob Hill in historic San Francisco. Block bookings of rooms have been made in the name of Associated Harvard Clubs to assure accommodations right at the scene of the meetings. Invitations have been sent to alumni of all Harvard Schools. In the east they were sent direct to the clubs. Club officers should be contacted for necessary blanks. Separate checks covering hotel deposits and registration should be mailed as soon as possible after receipt in order to speed up plans for taking care of guests.

In addition to meetings, leisure time has been set aside for recreation in historic San Francisco where there are a multitude of interesting and picturesque sights to be seen.

The Harvard-Stanford football game follows the meeting by two weeks on Sep-

tember 24 providing the perfect excuse for a vacation. There are several possibilities near San Francisco. World renowned Yosemite National Park, a five hours drive, is perhaps the most famous. Three hours takes you to historic and beautiful Monterey peninsula with its famous 17-mile drive. There are of course many other trips you can take if you wish . . . Redwood highway . . . Lake Tahoe . . . Lassen National Park . . . Sierra Nevada Mountains . . . Longer trips to Los Angeles and the Pacific Northwest. Those coming from eastern points can arrange to come and go by two routes and thus see much more of the west. It makes a very interesting and exciting vacation for 1949.

Final program arrangements have been announced as follows:

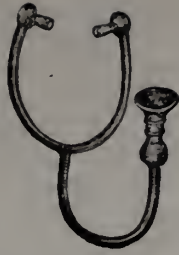
*FRIDAY* Morning: Registration. Noon: Welcoming luncheon. Afternoon: Meeting of officers of the Associated Harvard Clubs. Evening: "Town Hall Meeting" with President Conant as moderator, questioner, interpreter, and interpolator. On the program with him will be a panel of other outstanding leaders.

*SATURDAY* Morning: Breakfast and annual meeting of the Associated Harvard Clubs. Noon: Section luncheons with afternoon discussions for the college and graduate schools of medicine, law, business, and engineering. Speakers and discussion leaders will be the school deans and others from the University. Charles A. Noble, Med. '27 will conduct the medical school luncheon. Evening: President Conant will address the annual banquet.

*SUNDAY*: All-day excursion to the famous Napa Valley wineries. California vintners are arranging a very interesting program including visits in small groups to the different wineries, wine cellars and a barbecue luncheon.



# The Stethoscope



The first volume of the Faculty Records begins as follows:

At a meeting of the Faculty of Medicine of Harvard University November 1, 1816—:

Voted, To proceed to organize the Faculty by the appointment of a Dean.

Voted, That the late Secretary of the Professors be Dean of the Faculty for one year.

The Faculty was small and intimate; it included besides Dr. John C. Warren only Dr. James Jackson, Dr. John Gorham, Dr. Walter Channing, and Dr. Jacob Bigelow—all graduates of Harvard College, closely bound together by ties of friendship and marriage. Indeed, the appointment of Dr. Warren as Dean could have taken but little time since as senior member of the Staff, he was the obvious choice—particularly so since his brother-in-law was at hand ready to cast a deciding vote in his favor in case any argument arose.

The School was still in swaddling clothes; there was no budgetary problem as there were almost no funds to spend; there were only ninety-five Alumni to speculate about the impracticality of modern teaching methods; the Deanship seemed relatively unimportant.

The latest item of general interest in the Faculty Records contains the following sentence in connection with a meeting held May 10, 1949, a hundred and thirty-three years later:

President Conant announced that yesterday the Board of Overseers confirmed the appointment of Dr. George Packer Berry to be Professor of Bacteriology and Dean of the Faculty of Medicine, effective July 1.

The President added that many of the Faculty knew Dr. Berry well; he was a graduate of Johns Hopkins; already distinguished as an investigator and as an administrator. He had given his services to

the Medical School in several useful ways during the past year, visiting here as a consultant; now, after due consideration, he had accepted the Deanship.

Clearly, Dr. Berry does not come to Harvard as an unknown figure or acting on impulse; moreover, he has investigated the affairs of the School thoroughly. This is reassuring, making him seem to be the kind of individual who regards his new responsibility with utmost gravity—as a post, 'not by any to be enterprised nor taken in hand inadvisedly, lightly or wantonly, but discretely and soberly'.

The School no longer is the family affair that it was in 1816. Instead of five, the present Faculty includes two hundred and fourteen members, and the entire Teaching Staff has grown to comprise eight hundred and eighty-nine individuals, selected from all over the world. Instead of ninety-five Alumni, there now are nearly six thousand. The budget which once was so unimportant now deals with astronomical dollar figures. And, finally, the process of medical education has become vastly complicated; social and economic factors play an increasingly important part in student thinking, paralleling in interest all that must be taught of the causes, prevention and treatment of disease. The application of basic sciences to clinical work must be wisely directed so that the stream of competent young doctors leaving the School continues strong and vigorous. Research must be fostered so that new ideas will develop and new medical concepts may arise which will lead to better health for the citizens of this country and the world.

When Dr. Warren, our first Dean, began his duties in 1816, he must have known that he had the sincere good will of his colleagues, of his students, and of the Alumni. As Dr. Berry, too, must realize that he has the good will of his teaching staff, of his students, and of the Harvard Medical Alumni Association. For surely, no Dean has taken command at so critical a time in the School's life, with more complicated problems to solve; and the appointment of few Deans has been welcomed so eagerly by so many people.

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#### DR. SIDNEY BURWELL

A hundred years ago Dr. Pierre Blaud—the inventor of the famous iron pill which bears his name—burst into verse. In his advice to young physicians at the beginning of their careers, three of his rhymes reveal with what cynicism he regarded the acrobatics necessary to ascension of the academic ladder.

"If you wish to eclipse all men of your age,  
Copy the manners of some wizened old sage;  
Be ponderous, walk with a dignified tread,  
Try to look wise—though with no thoughts in  
your head.

"Go after publicity in every known way;  
Tend meetings, make speeches, get papers to say  
In flattering terms that your talking is grand,  
And the first thing you know, you'll be much  
in demand.

"Such is the kind of a life you must lead,  
If in this day and age you wish to succeed.  
If you do as I say, and see what I mean,  
You'll become a Professor or, maybe, a Dean!"

Nowadays, in the Harvard Medical School at any rate, things have changed. We made our most recent dean, Dr. Sidney Burwell, out of one of our own former students—out of a former student who was graded "A" in Biochemistry, "B" in Anatomy, and "C" in Physiology during his first year and, as he advanced in his course, who received a "B" in Pathology, and thereafter in the clinical subjects of Medicine, Obstetrics and Gynecology, Pediatrics, Surgery, and all other specialties no mark below the "A" level. Fittingly enough, the President and Fellows awarded him a John Harvard Fellowship in recognition, as they put it, 'of notable

diligence and scholarly attainment in medical studies'.

He had an internship on the West Medical Service of the Massachusetts General Hospital where he was licked into shape by such wise mentors as Richard Cabot, Frederick Lord, and William H. Smith. Since adventure appealed to him, he next spent a year abroad with an American Red Cross Commission.

He came back to Boston to commence his academic pilgrimage; resident in medicine at the M.G.H., teaching fellow at the School, instructor and resident in medicine at Johns Hopkins, associate in medicine and assistant visiting physician at that same austere institution, associate professor and finally professor of medicine and Chief of the Medical Clinic at Vanderbilt University, research professor of clinical medicine and Dean of the Faculty of Medicine at Harvard.

These milestones were not passed at the modern flying speed of three hundred and fifty miles an hour but were reached step by step over a span of twenty-six years, and not by artful ingratiation to Very Important Persons higher up, but by toil and sacrifice and fortitude.

Along the road he made friends, broadened his horizon and finally brought back to the School all that he had learned of the medical art, of doctors young and old, of the problems of medical education, and most significant of all, the integrity and the high standards of excellence that by now were so deeply ingrained in his character.

Dr. Burwell has served as Dean for fourteen years. As he relinquishes this responsible office to Dr. Berry, he can resume with care-free heart what he most enjoys in the Harvard Medical School—the clinical activities and teaching entailed in his dual capacity as research professor of medicine and visiting physician to the Peter Bent Brigham Hospital.

The Harvard Medical Alumni Association wishes him a further prosperous journeying. He has lent distinction to our procession of deans as he has marched along at the head of their column; he has given something enduring to the personality of the School—perhaps a trace of the black and gold luster of Johns Hopkins and Vanderbilt and, surely, a great deal of his own unselfish idealism.









